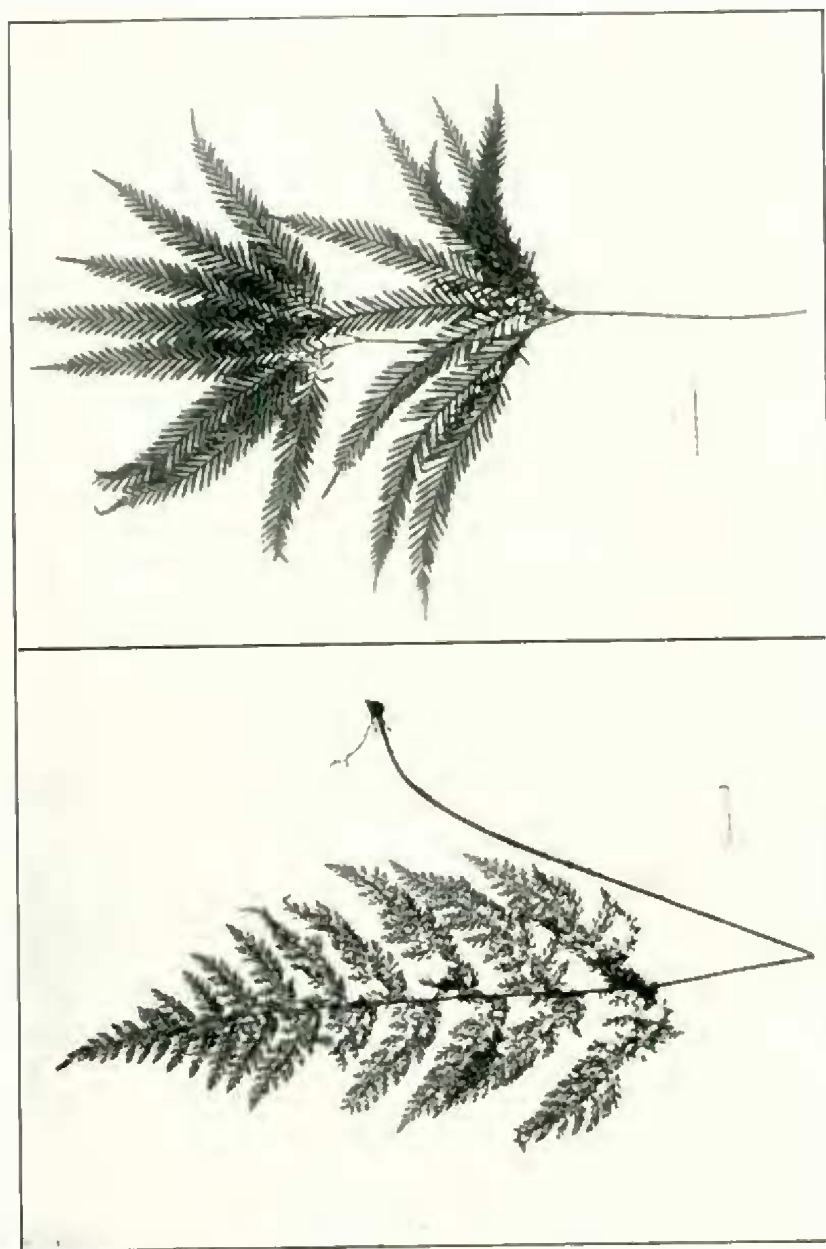


Plate XV



*Gleichenia flabellata* R.Br. White and Goy

*Leptolepis dissecta* White and Goy

## FERNS OF MT. SPURGEON, NORTH QUEENSLAND

By C. T. WHITE and D. A. GOY

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In the spring of 1936 one of us (C. T. White) spent about ten days botanizing on Mt. Spurgeon, one of the richest botanical fields in North Queensland. It is a granite plateau rising to approximately 4,000 ft. and situated a few miles inland from Port Douglas. The rainfall on the eastern portion around Root's Creek and the Mossman Falls on the Upper Mossman River is very heavy, but falls away rapidly as the plateau recedes to the west and the altitude decreases, the rain-forest becoming drier until at the extreme western end of the plateau, and probably at an altitude of 2,000 ft., it is replaced by a better-class Eucalyptus forest. One of the most abundant species is *Eucalyptus resinifera*, the Red Stringybark or Red Mahogany, which, so far as we know, has not previously been found so far north. No records as to rainfall are available, but the impression from the vegetation is that it is probably about 150 inches in the east and only about half this in the west. As one descends on the western slopes towards the township of Mt. Carbine the usual "Gulf" xerophytic vegetation is in evidence.

In addition to the ferns described for the first time, the collections yielded two new orchids—*Dendrobium Fleckeri* Rupp and White, and *D. Carrii* Rupp and White—and several trees and shrubs which will be described in the next "Contributions to the Queensland Flora."

The following list comprises only those ferns of which specimens were collected; a few very common species were observed but not collected. No list was made of these in the field, so they have been ignored in the present account.

## LYCOPODIALES

## Family LYCOPODIACEAE

*Lycopodium cernuum* Linn.

## FILICALES

## Family MARATTIACEAE

*Marattia fraxinea* Sm.

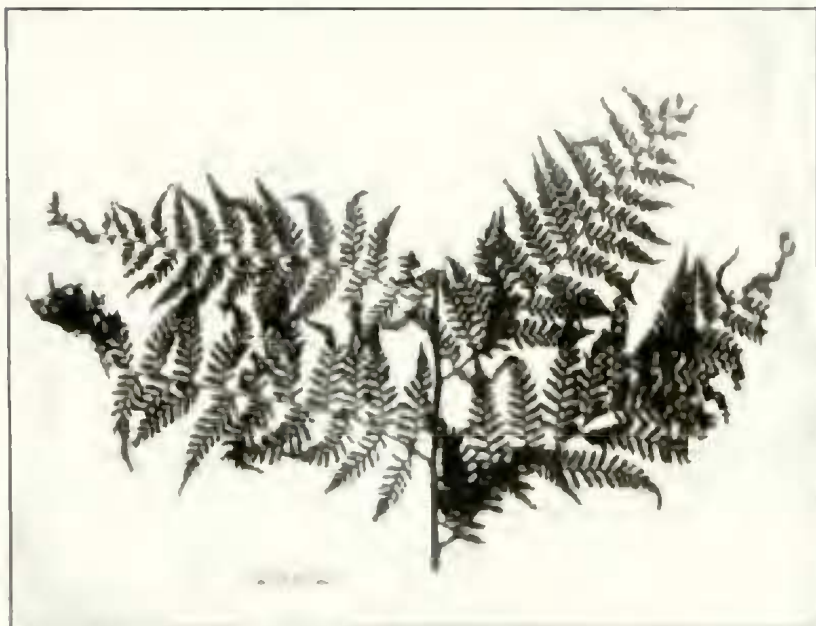
## Family GLEICHENIACEAE

*Gleichenia dicarpa* R.Br.*Gleichenia flabellata* R.Br., var. *compacta*, var. nov.

Rhizoma repens, ramentis lanceolatis deciduis sparse obsitum. Stipes validus, erectus, subnitidus, glaber. Rhaces ad furcas et subinde rami paleis parvis deciduis lanceolatis fimbriatis obsitae. Frondes 35-150 cm. altae,

compactae, repitito-dichotomae, ramis vel pinnis ultimis 10-15 cm. longis, 1.5 to 2 cm. latis, lineari-lanceolatis, acuminatis; segmentis herbaceis, supra glabris, subtus glaucis, pilis paleaeformis paucis deciduis ad nervos obsitis; margine in parte superiori serrulatis. Sori e sporangiis parvis 2-6 (plerumque 4) compositi.

Rhizome branched, creeping, rather sparsely clothed with small lanceolate deciduous scales. Stipes rather stout, erect, smooth; rhachises clothed with a few small lanceolate-fimbriate, deciduous scales at the forkings, and sometimes along the whole branch. Fronds 35-150 cm. high, repeatedly and compactly dichotomous, the branches sometimes spreading in a horizontal



*Hypolepis tenuifolia* (Forst.) Bernh., var. *hirsuta* White and Goy.

plane (as in *G. Cunninghamii* Hew, a New Zealand species). Ultimate branches (pinnae) 10-15 cm. long, 1.5 to 2 cm. broad, linear-lanceolate, acuminate, pectinately divided to the rachis or nearly so, the segments herbaceous, glabrous above, exceedingly glaucous beneath and with scattered, deciduous, scale-like hairs on the veins, the margins serrulate in the upper part. Sori of 2 to 6 (usually 4 or 5) small sporangia.

Mt. Spurgeon, C. T. White, No. 10556, Sept., 1936 (type of the variety), (very abundant, forming thickets along creek banks). Thornton Peak, L. J. Brass, No. 2304, 14/3/1932. Gadgarra, Atherton Tableland, S. F. Kajewski, No. 1101, 8/6/1929 (a fern growing to 1 m. high on creek bank).

This variety represents an intermediate form between *G. flabellata* R.Br. and the New Zealand *G. Cunninghamii* Hew. The former differs in its less compact growth, longer and broader pinnae, larger sori and green or at most slightly glaucous under surface. *G. Cunninghamii* is of extremely rigid growth, has densely scaly stipes and rhachises, very coriaceous texture and the margins of the pinnae are quite entire.

## Family HYMENOPHYLLACEAE

*Trichomanes* sp. aff. *T. bipunctatum* Poir.*Trichomanes parviflorum* Poir.

## Family DICKSONIACEAE

*Dicksonia Youngiae* C. Moore*Hypolepis tenuifolia* (Forst.) Bernh., var. *hirsuta*, var. nov.

Frondes 1.5 m. altae. Stipes ad basem pilis longis mollibus fulvus densissime obsitus. Frondes supra pilis paucis longis obsitae.

Fronds 5 ft. tall (1.5 m.). Base of stipes densely covered with soft reddish-brown hairs. Rhachises and veins on the under surface of fronds densely clothed with spreading, silky, pale-brown hairs, the hairs sparser on the upper surface.

Mt. Spurgeon, North Queensland, C. T. White, No. 10702, Sept., 1936. (Base of stipes very hairy with reddish-brown hairs. Fronds 1.5 m. high.)

## Family CYATHEACEAE

*Alsophila Rebeccae* F.v.M.*Alsophila Baileyana* Domin (*A. Rebeccae* F.v.M., var. *commutata* Bail.)*Alsophila australis* R.Br.*Alsophila australis* R.Br. var. *glauca* F. M. Bail.*Alsophila Robertsiana* F.v.M.

## Family POLYPODIACEAE

*Leptolepia dissecta* sp. nov.

Frondes cum stipite 52-60 cm. altae. Stipes cum rhachi primaria plerumque plus minusve flexuosus, supra sulcatus, pilis longis patentibus setiformibus fulvis obsitus; pilis densissimis basem versus. Laminae 22-32 cm. longae. 15-22 cm. latae, oblongo-lanceolatae vel deltoidae, tripinnatae, acuminate, firme herbaceae, supra atro-virides, subtus (in sicco) glaucae. Pinnae primariae erecto-patentes; infimae bipinnatae, superiores gradatim breviores sed alte pinnatifidae fere ad apicem frondis, utrinque pilis adpressis setiformibus ad venas parvisime obsitae. Pinnae secundariae lineari-lanceolatae, in parte inferiori pinnatae, apicem versus pinnatifidae, ad 1.3-5 cm. longae et 1 cm. latae; pinnulae infimae pinnatae, segmentis 3-7; pinnulae intermediae paucilobae; pinnulae supremae integrae; segmentae ultimae 2-3 mm. longae, falcatae, lineares vel oblongae, obtusae. Sori numerosi ad apicem venulae in lobis lateralibus pinnae tertiariae dispositi. Indusium membranaceum, magnum, late orbiculare-cordatum saepe praeter apicem lobi protrudens.

Rhizome short-creeeping. Fronds tufted, 52-60 cm. high, 15-22 cm. broad, on a stipes about half the total length of the frond. Stipes and main rhachis flexuose, channelled above, densely clothed at least when young with long, spreading, setiform, brownish hairs, the hairs denser and longer towards the base. Fronds oblong-lanceolate to deltoid, tripinnate, acuminate, texture firmly herbaceous, rather dark green above, glaucous beneath (dried). Primary pinnae fewer on one side than the other, erecto-patent, oblique, oblong-lanceolate, shortly acuminate, the lowest ones bipinnate and 7-12 cm. long, 2.5-6 cm. broad at the base, the upper ones gradually shorter but at least deeply pinnatifid almost to the apex of the frond; rhachises channelled above and more or less hirsute, both surfaces with scattered, adpressed.

bristly hairs on the nerves, otherwise glabrous. Secondary pinnae linear-lanceolate, pinnate below, deeply pinnatifid at apex, the longest ones 1.3-5 cm. long and about 1 cm. broad, their lowest pinnules again pinnate with 3-7 segments, middle ones few-lobed, upper ones entire. Ultimate segments 2-3 mm. long, falcate linear or oblong, obtuse. Sori numerous, at the tip of a short veinlet on small rounded lateral outgrowths of the tertiary pinnae. Indusium membranous, large, broadly orbicular-cordate, frequently protruding above the tips of the lobes, with a few bristles at the point of attachment.

Mt. Spurgeon, North Queensland, C. T. White, No. 10574, Sept. 1936 (fern on rock faces in damp places near creeks).

The only other recorded species of *Lepidolepis* for Queensland, viz., *L. tripinnata* Kuhn, differs abundantly in having fronds of finer texture, green on both sides, and less finely divided pinnae with larger ovate ultimate segments.

*Lindsaya cultrata* Sw.

*Pteridium aquilinum* Kuhn, var. *esculentum* v. Alder v. Rosenb.  
(*Pteris aquilina* Linn.)

*Pteridium aquilinum* Kuhn, var. *lanuginosum* Lueres.

*Leptochilus neglectus* C. Chr. (*Acrostichum neglectum* F. M. Bail.)

*Leptochilus acuminatus* sp. nov.

Rhizoma repens. Frondes dense caespitosae. Stipes ad 46 cm. longus, ad basem ramentis fulvis linear-lanceolatis ca. 3 mm. longis obsitus. Frondes steriles cum stipite 20-69 cm. altae, pinnatae. Pinnae utrinque 2-5, oppositae vel alternae, subcoriaceae, oblongo-lanceolatae, apice longe acuminatae, margine crenatae, 8-17 cm. longae, 2.5-3 cm. latae, binae infimae maximae pinnae laterales obliquae ad basem rotundatae, subcordatae et inaequales; pinnae inferiores breviter petiolatae, superiores sessiles vel plus minusve confluentes et saepe in axilla bulbillo instructae, deinde angustatae et fertiles; pinna terminali integra, bifida vel trifida. Frondes fertiles steriles aequantes; pinnae anguste lineares, 9-19 cm. longae, ca. 4 mm. latae; sori densi, confluentes vel distincti.

Rhizome creeping. Fronds densely tufted, stipes clothed at the base with reddish-brown, linear-lanceolate scales about 3 mm. long, otherwise naked and smooth. Sterile fronds 20-69 cm. high, pinnate, with 2-5 pinnae on each side, the stipes about two-thirds the total length of the frond. Pinnae opposite or alternate, not articulate to the rachis, oblong-lanceolate, 8-17 cm. long and 2.5-3 cm. broad, the lowest pair the largest, apex rather long-acuminate, the lateral ones somewhat oblique, rounded, subcordate and very unequal at the base, 2.5-5 cm. apart, the margins crenate, the lower ones shortly petiolulate, the upper ones sessile or more or less confluent and frequently with a bulbil developed in the axil; terminal pinna about as long as the largest lateral ones, entire or bi-tri-fid. Occasionally the uppermost segments are narrowed and soriferous. Texture firmly herbaceous-subcoriaceous, dark green, surfaces naked, midrib and main veins more prominent below and distinct to the margin; areolae numerous, often with free included veinlets. Fertile fronds about as long as the sterile ones, pinnate, pinnae narrow-linear, 9-19 cm. long and about 4 mm. broad, the sori usually densely covering the under surface but sometimes interrupted.

A very distinctive member of the genus for Queensland and readily distinguishable from the two previously recorded species, *L. cuspidatus* C. Chr. differs in its much broader, less dimorphic fertile fronds, both fertile and sterile fronds being more or less deeply and obtusely lobed, and both having a long, lobed terminal segment. *L. neglectus* C. Chr. has the very dimorphic

Plate XVI



*Leptochilus acuminatus* White and Goy (fertile frond)

*Leptochilus acuminatus* White and Goy (sterile frond)